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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,992	03/31/2005	Mircea Gradu	TIMK 8503W1	5393

1688 7590 01/04/2007  
POLSTER, LIEDER, WOODRUFF & LUCCHESI  
12412 POWERSCOURT DRIVE SUITE 200  
ST. LOUIS, MO 63131-3615

EXAMINER

BONCK, RODNEY H

ART UNIT PAPER NUMBER

3681

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/529,992

Applicant(s)

GRADU, MIRCEA

Examiner

Rodney H. Bonck

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-12 and 14-19 is/are rejected.
- 7) ☒ Claim(s) 8 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/31/05</u>  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

The following is a first action on the merits of application Serial No. 10/529,992, filed March 31, 2005 and based on PCT/US03/02655, which claims the benefit of provisional application Serial No. 60/415,669.

### ***Information Disclosure Statement***

Receipt is acknowledged of the Information Disclosure Statement filed March 31, 2005. The cited documents have been considered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 5, the intended meaning of "presented away from the axis" is not clear. Claim 19 depends from claim 15 but refers to the "process according to claim 15". Claim 15, however, is not a process claim, but rather is directed to a "clutch assembly". Also, in claim 19, "the first member" and "the second member" lack a proper antecedent basis.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 9-12, and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurisu('066) in view of Wendt et al.('336). The Kurisu device is a clutch comprising a cam 3 rotatable about axis 16, a rotor 2 having piston cavities, and pistons 4 in the piston cavities. Kurisu does not provide an electrorheological or magnetorheological fluid in the chamber and does not control viscosity of the fluid to control slippage between the cam and rotor as claimed here. The Wendt et al. disclosure teaches transmitting torque by pushing an electrorheological or magnetorheological fluid through a gap by means of a surface acting as a piston and varying the viscosity of the fluid to vary the transmission of torque. In view of Wendt et al., it would have been obvious to use electrorheological or magnetorheological fluid in the Kurisu device and vary torque transmission by varying the electric or magnetic field to change the viscosity of the fluid, the motivation being to provide enhanced control of the transmission of torque. Note in Kurisu that the camming surface is spaced from the axis and thus can be considered to be "presented away from the axis" as claimed. The reduced diameter portions of the interior cam of Kurisu can be considered "lobes" of the cam. The coil (e.g., at 16) in Wendt et al. surrounds the rotor.

***Allowable Subject Matter***

Claims 8 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gorbing et al.('364) is cited for its showing of a clutch using electrorheological or magnetorheological fluid. Sheridan('948), Hubbard et al.('910), Barton('624), Hickman('981), Mueller('803), and Mueller('461) show other torque transmitting clutches employing cams and pistons.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney H. Bonck whose telephone number is (571) 272-7089. The examiner can normally be reached on Monday-Friday 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3681

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Rodney H. Bonck  
Primary Examiner  
Art Unit 3681

rhb  
December 27, 2006